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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.        | CONFIRMATION NO.       |
|---|-------------|----------------------|----------------------------|------------------------|
| 10/791,275  | 03/03/2004  | Ryoji Ninomiya       | 008312-0308583             | 8925                   |
| 909 7590 05/15/2007<br>PILLSBURY WINTHROP SHAW PITTMAN, LLP<br>P.O. BOX 10500<br>MCLEAN, VA 22102 |             |                      | EXAMINER<br>LEE, CYNTHIA K |                        |
|   |             |                      | ART UNIT<br>1745           | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>05/15/2007    | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/791,275

**Applicant(s)**

NINOMIYA ET AL.

**Examiner**

Cynthia Lee

**Art Unit**

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/3/04, 7/7/05</u> | 6) <input checked="" type="checkbox"/> Other: <u>IDS: 9/22/05</u>                       |

***Priority***

Acknowledgement has been made of applicant's claim for priority under 35 USC 119 (a-d). The certified copy has been filed on 3/3/2004.

***Information Disclosure Statement***

The Information Disclosure Statement (IDS) filed 3/3/2004, 7/7/2005, 9/22/2005 has been placed in the application file and the information referred to therein has been considered.

***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. The drawings are objected to because it does not show the claimed feature "wherein the casing has one side face constituting the curved wall surface, and the other side face opposed to the one side face and having the shaping of an outwardly convex curved surface." Therefore, the claimed feature must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The recitation "the other side face opposed to the one side face" (emphasis added) lacks antecedent basis.

Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how the center of gravity of the fuel cell elements is situated near the center of gravity of the casing because the center of gravity of the fuel cell elements would be different from the center of gravity of the casing. Thus, it is

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unclear as to what proximity the center of gravity of the fuel cell would be near the center of gravity of the casing.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin (US 5932365).

Lin discloses a fuel cell unit comprising two fuel containers which are located between two fuel cells and supplies fuel to the fuel cells. The two fuel cells are located at opposite ends of the casing. Given the broadness of the term "near," the center of gravity of the fuel cells is near the center of the gravity of the casing because the fuel cell unit is symmetrically arranged. Also, the fuel containers are located near the center of gravity of the casing.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franklin (US 2003/0198846) in view of Sugihara (JP 11-120972):

Franklin discloses a fuel cell unit comprising a casing, a fuel cell stack, and fuel containers. The casing has a base and a wall surface. The casing has a vent. Franklin does not disclose a casing with an outwardly convex curved surface. However, Sugihara teaches a battery pack with a casing that lines the shape of the battery modules. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the casing of Franklin's fuel cell unit that contours the shape of the fuel cell and the hydrogen fuel canister for the benefit of minimizing any dead space within the casing. In light of the teaching of Sugihara, it would further have been obvious to one of ordinary skill in the art at the time the invention was made to vary the shape of the casing depending on the various requirements for the intended use.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Franklin (US 2003/0198846) in view of Sugihara (JP 11-120972) as applied to claim 1, further in view of Fuju (US 6080500).

Franklin modified by Sugihara does not teach a connecting section. However, Fuju teaches a fuel cell comprising a plug socket (34 in fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a socket to the fuel cell unit of Franklin modified by Sugihara for the benefit of providing power to electrical devices.

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Claims 9, 10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Franklin (US 2003/0198846) in view of Hamada (US 5314762).

Franklin discloses a fuel cell unit comprising a casing, fuel cells, and fuel containers. Franklin does not disclose a grip portion. However, Hamada teaches a grip portion on a fuel cell casing (21 in fig. 1). It comprises a rod portion extending in a longitudinal direction, opposite portions of the grip portion being bent and connected to the casing. The bent portion is also a protrusion protruding from the outer surface of the casing. The protrusion is set up substantially on the central part of the top portion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a grip portion to Franklin's fuel cell, as taught by Hamada, for the benefit of being able to hand hold the fuel cell.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Franklin (US 2003/0198846) in view of Hamada (US 5314762) as applied to claim 9 above, and further in view of Fuju (US 6080500).

Franklin modified by Hamada teaches a grip, but does not teach that the grip portions are rockably supported by hinge portions. However, Fuju teaches a rockably supported grip. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add hinge portions to the grip of Franklin modified by Hamada for the benefit of being able to hold the fuel cell in various positions.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 5932365) as applied to claim 14 above, and further in view of Sugihara (JP 11-120972).

Lin does not disclose that the casing has a convex surface portion. However, Sugihara teaches a battery pack with a casing that lines the shape of the battery modules. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the casing of Lin's fuel cell unit that contours the shape of the fuel cell and the hydrogen fuel canister for the benefit of minimizing any dead space within the casing.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 5932365) as applied to claim 14 above, and further in view of Franklin (US 2003/0198846).

Lin does not disclose breathers communicating with the interior of the casing. However, Franklin teaches a vent that communicates with the interior of the casing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a vent to the casing of Lin as a method of communicating with the exterior to vent any heat generated from the fuel cell. It would have been obvious to one of ordinary skill in the art at the time the invention was made to dispose the vent on various locations of the fuel cell casing depending on the areas of the fuel cell that generate maximum heat.

### ***Conclusion***



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Lee whose telephone number is 571-272-8699. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's trainer, Susy Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SUSYTSANG-FOSTER  
PRIMARY EXAMINER

ckl

Cynthia Lee

Patent Examiner

A handwritten signature in black ink, appearing to read "Susy Tsang-Foster", with a long horizontal line extending to the right.